

Amendment and Response under 37 C.F.R. 1.116

Applicant: Mark W. Minne et al.

Serial No.: 09/718,322

Filed: November 22, 2000

Docket No.: 10007268-1

Title: ONE-TIME-USE DIGITAL CAMERA

IN THE CLAIMS

Please cancel claims 36-45 and 58-83.

1. (Original) A one-time-use camera comprising:

an electronic digital camera system for generating digital image data representative of a captured image;

a non-volatile memory in communication with the electronic digital camera system for storing the digital image data, the non-volatile memory comprising a matrix memory component, the matrix memory component including a first layer of parallel conductors, a second layer of parallel conductors oriented mutually orthogonal to the first set of parallel conductors, and a functional medium disposed between the first layer and the second layer, wherein an addressable cell in the functional medium is defined at an intersection of each first layer parallel conductor and second layer parallel conductor; and

wherein supplying an electrical energy directly to the functional medium of the cell detects or changes the logical state of the cell, for reading and writing the digital image data at the matrix memory component.

2. (Original) The camera of claim 1, wherein the functional medium is made of an organic material with non-linear impedance characteristics.

3. (Original) The camera of claim 1, wherein the functional medium includes a polymer material.

4. (Original) The camera of claim 1, wherein the functional medium includes an amorphous silicon material.

5. (Original) The camera of claim 1, wherein the functional medium includes a low molecular weight organic material.

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6. (Original) The camera of claim 1, further comprising an external interface wherein the external interface is configured for transfer of the digital image data to an external device.

7. (Previously Presented) A one-time-use camera comprising:

an electronic digital camera system for generating digital image data representative of a captured image;

a non-volatile memory in communication with the electronic digital camera system for storing the digital image data, the non-volatile memory comprising a matrix memory component, the matrix memory component including a first layer of parallel conductors, a second layer of parallel conductors oriented mutually orthogonal to the first set of parallel conductors, and a functional medium disposed between the first layer and the second layer, wherein an addressable cell in the functional medium is defined at an intersection of each first layer parallel conductor and second layer parallel conductor; and

wherein supplying an electrical energy directly to the functional medium of the cell detects or changes the logical state of the cell, for reading and writing the digital image data at the matrix memory component, further comprising a camera housing, wherein the non-volatile memory component is attached to the housing.

8. (Original) The camera of claim 7, wherein the housing includes a front portion and a back portion, wherein the non-volatile memory component is attached to the back portion defining a camera back memory assembly.

9. (Original) The camera of claim 8, wherein the camera back memory assembly is removable from the front portion.

10. (Original) The camera of claim 9, wherein the camera back assembly is replaceable with a second camera back assembly.

11. (Original) The camera of claim 1, wherein the non-volatile memory component is removable from the camera.

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12. (Original) The camera of claim 11, wherein the non-volatile memory component is replaceable with a second non-volatile memory component for reuse of the camera.

13. (Original) The camera of claim 1, wherein the memory component includes an external device interface for transferring the digital image data to an external device.

14. (Original) The camera of claim 1, wherein the electronic digital camera system includes a lens system, a shutter system, a charge coupled device, an analog to digital converter, a digital signal processor, and a camera system processor for receiving an image and converting the image to digital image data stored in the memory component.

15. (Original) The camera of claim 1, wherein the electronic digital camera system includes an external device interface for transferring the digital image data stored at the memory component to an external device.

16. (Original) A one-time-use camera comprising:

an electronic digital camera system for generating digital image data representative of a captured image, the electronic digital camera system including a mode switch for allowing a user to select a mode of operation of the camera;

a non-volatile memory in communication with the electronic digital camera system for storing the digital image data, the non-volatile memory comprising a matrix memory component, the matrix memory component including a first layer of parallel conductors, a second layer of parallel conductors oriented mutually orthogonal to the first set of parallel conductors, and a functional medium disposed between the first layer and the second layer, wherein an addressable cell in the functional medium is defined at an intersection of each first layer parallel conductor and second layer parallel conductor; and

wherein supplying an electrical energy directly to the functional medium of the cell detects or changes the logical state of the cell, for reading and writing the digital image data at the matrix memory component.

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17. (Original) The camera of claim 16, wherein the electronic digital camera system includes a microphone system for recording sound as part of the digital image data.

18. (Original) The camera of claim 16, including a selectable mode of operation for recording a still picture as the digital image data.

19. (Original) The camera of claim 16, including a selectable mode of operation for recording still picture and sound associated with the still picture as the digital image data.

20. (Original) The camera of claim 16, including a selectable mode of operation for recording video as the digital image data.

21. (Original) The camera of claim 16, including a selectable mode of operation for recording video and sound associated with the video as the digital image data.

22. (Cancelled)

23. (Previously Presented) A method of using a one-time-use camera comprising:
defining a digital camera including a camera housing, an electronic digital camera system for generating digital image data representative of a captured image; and a non-volatile memory including a write once memory matrix component in communication with the electronic digital camera system for storing the digital image data;

capturing an image using the digital camera and storing the image as digital image data in the non-volatile memory;

removing the non-volatile memory; and

transferring the digital image data from the non-volatile memory to a portable medium;

defining the write once memory matrix component including a first layer of parallel conductors, a second layer of parallel conductors oriented mutually orthogonal to the first set of parallel conductors, and a functional medium disposed between the first layer and the second layer, wherein an addressable cell in the functional medium is defined at an intersection of each first layer parallel conductor and second layer parallel conductor.

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24. (Previously Presented) The method of claim 23, defining the portable medium as photographic prints.

25. (Previously Presented) The method of claim 23, defining the portable medium as a digital video disk.

26. (Previously Presented) The method of claim 23, further comprising replacing the non-volatile memory with a second non-volatile memory such that the one-time-use camera is available for reuse.

27. (Original) The method of claim 26, wherein the step of replacing the non-volatile memory with a second non-volatile memory includes replacing the second portion of the housing with a third housing portion having the second non-volatile memory attached thereto.

28. (Previously Presented) The method of claim 23, further comprising the step of sending the portable medium to a user.

29. (Previously Presented) The method of claim 23, including defining the functional medium to include an organic material having non-linear impedance characteristics.

30. (Previously Presented) The method of claim 23, including defining the functional medium to include an amorphous silicon material.

31. (Previously Presented) The method of claim 23, including defining the functional medium to include a polymer.

32. (Previously Presented) The method of claim 23, including defining the functional material to include a low molecular weight organic material.

33. (Previously Presented) A disposable digital camera comprising:

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an electronic digital camera system for generating digital image data representative of a captured image, the electronic digital camera system includes a lens system, a shutter system, a charge coupled device, an analog to digital converter, a digital signal processor, and a camera system processor for receiving an image and converting the image to digital image data;

a non-volatile memory in communication with the electronic digital camera system for storing the digital image data, the non-volatile memory comprising a matrix memory component, the matrix memory component including a first layer of parallel conductors, a second layer of parallel conductors oriented mutually orthogonal to the first set of parallel conductors, and a flexible, substantially planar functional medium disposed between the first layer and the second layer, wherein the functional medium is made of an organic material with non-linear impedance characteristics, the functional medium including a polymer material, and wherein an addressable cell in the functional medium is defined at an intersection of each first layer parallel conductor and second layer parallel conductor; and

wherein supplying an electrical energy directly to the functional medium of the cell detects or changes the logical state of the cell, for reading and writing the digital image data at the matrix memory component.

34. (Previously Presented) The camera of claim 33, further comprising a camera housing, the housing including a front portion and a back portion, wherein the non-volatile memory component is attached to the back portion defining a camera back memory assembly, wherein the camera back memory assembly is removable from the front portion.

35. (Previously Presented) The camera of claim 34, the back portion having a major surface, the matrix memory component having a substantially planar, layer-like structure attached to the major surface of the back portion.

36.- 45. (Cancelled)

46. (Previously Presented) A method, comprising:

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attaching a first housing portion having a memory formed therein to a second housing portion to form a one-time-use digital camera;

capturing digital images with the one-time-use digital camera;

removing the first housing portion from the second housing portion; and
retrieving the digital images from the first housing portion.

47. (Previously Presented) The method of claim 46, comprising:
storing the digital images in the memory; and
retrieving the digital images from the memory in the first housing portion.
48. (Previously Presented) The method of claim 46, comprising:
disposing of the first housing portion.
49. (Previously Presented) The method of claim 46, comprising:
reusing the second housing portion;
replacing the first housing portion with a third housing portion having a memory; and
attaching the third housing portion to the second housing portion to form another one-time-use digital camera.
50. (Previously Presented) The method of claim 46, comprising:
forming the first housing portion and the second housing portion of a polymeric material.
51. (Previously Presented) The method of claim 46, comprising:
providing the memory as a nonvolatile memory.
52. (Previously Presented) The method of claim 46, comprising:
providing the memory as a write-once memory.
53. (Previously Presented) The method of claim 46, comprising:

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capturing digital images with the one-time-use digital camera until the memory in the first housing portion is full; and

replacing the first housing portion with a third housing portion having a memory with available storage.

54. (Previously Presented) The method of claim 46, wherein capturing digital images includes capturing still images.

55. (Previously Presented) The method of claim 46, wherein capturing digital images includes capturing motion images.

56. (Previously Presented) The method of claim 46, wherein capturing digital images includes capturing sound associated with the digital images.

57. (Previously Presented) The method of claim 46, further comprising providing the first housing portion as a camera back assembly.

58.-83. (Cancelled)